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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 05042004

Application Number: 09/171,735
Filing Date: December 04, 1998
Appellant(s): SCHONBECK ET AL.

Alfred W. Froebrich
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 27 October 2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement in the brief that the claims do stand or fall together is agreed with.

(8) Claims Appealed

A substantially correct copy of appealed claims 6-13 appears on page A1-A2 of the Appendix to the appellant's brief. The minor errors are as follows: in claim 6, starting at line 6, after "continuous", the passage "precursor strip through the first

deformation stage to form a continuous intermediate strip; coiling the continuous" was omitted.

(9) Prior Art of Record

JP 59-092103 A	Nitou et al	5-1984
US 3,921,704 A	Tozaki	11-1975
US 4,311,186 A	Spaccarotella	1-1982
US 5,083,687 A	Saito et al	1-1992
US 4,698,897 A	Frommann et al	10-1987

"Steel Industry: Hot Strip Mill Coiling", 1997, Manta Corporation, obtained at http://www.manta-corp.cm/pdfs/Coiling.pdf, accessed on 25 July 2002

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

- Claims 6-8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitou et al (JP 59-092103).

Nitou et al disclose the invention substantially as claimed. Nitou et al disclose (see English abstract, Figs. 1 and 2 and English translation) a process for producing hot rolled steel strip from a continuous cast precursor strip (S_1) comprising the steps of:

Receiving at a first deformation stage having at least one roll stand, the continuous precursor strip;

Rolling the continuous precursor strip (2A and 3A);

Coiling the strip to form an intermediate coil (SC_1);

Uncoiling the strip (1B);

Rolling the strip again (2B);

Producing a plurality of finished coils (SC_2) from the finished strip by coiling the finished strip and severing (4B) into sections.

Nitou et al teach (see 4th paragraph on page 4 of translation) that shears (4A) are optional. Thus, when the shears are not present, the continuous cast strip is not cut before being coiled, and the entire charge of the continuous casting machine is coiled into intermediate coil SC_1. Therefore, one of ordinary skill in the art would have expected the intermediate coil SC_1 to have a weight that is typical for the capacity of continuous casting machines. The prior art teaches (see Tozaki at col 1, lines 27-34, Spaccarotella at col 2, lines 18-21 and Saito et al at col 6, lines 36-38 for support [Note: Tozaki, Spaccarotella and Saito et al were cited in the rejection of 24 December 2002 as evidence. Applicant did not contest the teachings of these references as applied to claim 6.]) that typical capacities are, e.g.- 100-250 tons, 180 tons or 60 tons. Therefore, one of ordinary skill in the art would have expected the intermediate coil of Nitou et al to weigh more than 40 tons.

Nitou et al do not disclose changing the metallurgical characteristics of the continuous intermediate strip by temperature control prior to the coiling and by speed control through the second deformation stage. Temperature is known in the art to be a result effective variable for metallurgical properties. Speed control, which affects coil appearance and mill delays, is known in the art to be a result effective variable for metallurgical properties (see "Steel Industry: Hot Strip Mill Coiling" for support [Note: "Steel Industry: Hot Strip Mill Coiling" was cited in the rejection of 30 July 2002 as

evidence. Applicant did not contest the teachings of "Steel Industry: Hot Strip Mill Coiling" as applied to claim 6.]). Therefore, it would have been obvious to one of ordinary skill in the art to have used temperature and speed control to effect changes in the metallurgical characteristics of the strip because temperature and speed control are known to be result effective variables that affect metallurgical characteristics.

Regarding claim 7, Nitou et al disclose using a mandrel on the coil (see 5th paragraph on page 6 of translation)

Regarding claim 8, coiling without mandrels is known in the art (see Frommann et al at col 2, lines 58-60 for support [Note: Frommann et al was cited in the rejection of 30 July 2002 as evidence. Applicant did not contest the teachings of Frommann et al as applied to claim 8.]). Therefore, it would have been obvious to one of ordinary skill in the art to have affected the coiling step in Nitou et al without the use of a mandrel because coiling is known to be effected by equipment either having or lacking a mandrel with expected success.

Regarding claim 12, Nitou et al disclose changing the geometrical characteristics during the second deformation stage. In the figure, 1B does an orientation correction (see 1st paragraph on page 4 of translation).

Regarding claim 13, Nitou et al disclose that around the coils is a heat retention box (5A), thus protecting the edges of the intermediate strip from cooling (see 3rd paragraph on page 4 of translation).

(11) Response to Argument

Appellant argued that Nitou et al fails to teach or suggest that the intermediate coil receives a complete casting sequence of a precursor strip and that Nitou et al discloses "non-continuous rolling" as indicated at figures 1 and 2.

In response to Appellant's argument, Appellant's attention is drawn to several sections of Nitou et al. First, at figure 1, Nitou et al discloses using a continous casting machine 1A to create a "continuous precursor strip" S_1, which is then rolled at rollers 2A and 3A to create a "continuous intermediate strip" S_2. Then, the intermediate strip S_2 is coiled at coiler 6A (located inside heat-retaining chamber 5A) into "intermediate coil" SC_1. Then the intermediate coil SC_1 is uncoiled and subjected to rolling at a second deformation stage 2B to form a finished strip S_3 and then a plurality of finished coils SC_2 are cut from the finished strip. The point of contention is shears 4A that are present in figure 1. The shears cut the continuous intermediate strip S_2 to the desired length. However, based on the disclosure of Nitou et al in the fourth paragraph on page 4 of the translation, the shears are only optionally present, i.e.-"when traveling shears (4A) are furnished...". In other words, *"when" does not mean "must"*, and thus the shears are only optionally present. When the shears are present, the intermediate coils SC_1 are cut by the shears to any desired size, thus not being a "complete casting sequence" as claimed. However, when the shears are **not** present, *the size of the intermediate coil SC_1* ***must*** *be the same size as the entire contents of the continuous casting machine 1A, i.e.-a complete casting sequence.* With respect to the "non-continuous rolling" disclosed by Nitou et al, the present invention is also "non-continuous rolling", wherein

the first rolling occurs, and then the strip is formed into a coil. This coil is then transferred to a second rolling station. It is impossible to perform an operation where a continuous strip is being coiled while simultaneously being uncoiling. The present invention is actually a batch process that utilizes a continuous casting machine. Therefore, Appellant's argument with respect to "non-continuous rolling" is moot.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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